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IP

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/808,031 03/03/97 INOUYE S 377.5888P

HM12/1229

GERARD J WEISER
WEISER AND ASSOCIATES
SUITE 500
230 SOUTH FIFTEENTH STREET
PHILADELPHIA PA 19102

EXAMINER

HUTSON, R

ART UNIT	PAPER NUMBER
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1652

DATE MAILED:

12/29/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/808,031

Applicant(s)

Inouye et al.

Examiner
Richard Hutson

Group Art Unit
1652



☒ Responsive to communication(s) filed on Oct 21, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-17 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

1. The art unit location of your application and examiner has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit **1652**, Examiner **Richard Hutson Ph.D.**

Claim Rejections - 35 USC § 112

2. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reference in claim 17, to an isolated and purified bacterial reverse transcriptase of claim 13 which has in the following order starting from N- to the C- terminus the sequences of SEQ ID NO: 50, 51, Asn-Xaa₄-Xaa₅, and SEQ ID NO: 52, contains new matter. Specifically, the originally taught subdomain structure is from N- to the C- terminus: Asn-Xaa₄-Xaa₅, SEQ ID NO: 51, 50 and then 52.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Inouye et al. (US Pat. 5,320,958 or US Pat. 5,434,070), in view of the combination of Rice et al. (July 1993), Xiong et al. (1990) and Hsu et al. (Apr. 1992).

The rejection is stated in the previous office action, paper No: 24.

Applicant argues this rejection on the based on the following: First applicant states that Rice et al. is not prior art on the basis that the invention embodied in the claims of the subject application had been reduced to practice prior to the publication of Rice on July 1993, thus the subject application was filed less than one year prior to the publication of Rice et al. and further the invention was reduced to practice prior to its being received and hence published by the Journal of Bacteriology.

If it is the intent of applicants to swear behind this reference, the filing of a declaration Pursuant to 37 C.F.R. Section 1.131 would be necessary.

Applicants further argue that the combination of Xiong et al., Hsu et al. and either of the two Inouye patents relied upon don not teach or suggest the subject matter claimed. This traversal is based on the following: Applicants point out that claim 13, the broadest claim in this patent application recites a bacterial reverse transcriptase that synthesizes msDNA and is necessary for the synthesis of msDNA in vivo, while dependent claims further define the RT by reciting the presence un the order specified of four specific conserved regions within the various bacterial RTs. Applicants point out that absent the teaching of Rice et al., without the teaching of the present invention, there is no guidance or motivation to one skilled in the art to examine other

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genera or species of bacteria from retrons or RTs. This argument is not found persuasive. Absent the teachings of Rice et al., Hsu et al. compare the evolutionary relationship of the bacterial retroelements of *Myxococcus xanthus*, *Stigmatella aurantiaca* and *E. coli*. Based upon their data they suggest that the retrons of *M. xanthus* and *S. aurantiaca* were derived from a common progenitor retron which possibly existed before the two myxobacterial species diverged, whereas the *E. coli* retron was acquired after this bacterial species was established. Based on the assertion that the retroelements of *Myxococcus xanthus*, *Stigmatella aurantiaca* are derived from a common progenitor, prior to the divergence of these two species, it is likely that additional bacterial species also possess similar retroelements. Further to this point, the retrons are found in at least three diverse species of bacteria in addition to a number of other organisms including plants, animals, and protozoans.

Applicants further traverse on the basis that the earlier rejection was based on the assertion that the various viral and eukaryotic RTs presented by Xiong et al. "provide direct motivation and guidance to isolate RTs from other bacteria". Applicant is reminded that the Xiong et al. reference is relied upon to for a showing that the retroelements occur in a diverse genus of organisms, hence provide a reasonable expectation of success that bacteria other than *Myxococcus xanthus*, *Stigmatella aurantiaca* also contain such retroelements and the reverse transcriptase needed to replicate them. With respect to applicants traversal as to the motivation and guidance provided based on the fact that the claimed RTs possess the activity of synthesizing msDNA, a property not present in eukaryotic RTs, it is pointed out that Xiong et al. teach that the

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known bacterial RTs possess such an activity and thus additionally identified bacterial RTs would also be expected to also have this activity.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Hutson whose telephone number is (703) 308-0066. The examiner can normally be reached on M-F from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapy Achutamurthy (Murthy), can be reached on (703) 308-3804. The fax number for Official Papers to Technology Center 1600 is (703) 305-3014.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Richard Hutson Ph.D.
12/28/2000


PONNATHAPU ACHUTAMURTHY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600